

(12) UK Patent Application (19) GB (11) 2 318 280 (13) A

(43) Date of A Publication 22.04.1998

(21) Application No 9621893.8

(22) Date of Filing 21.10.1996

(71) Applicant(s)

Christopher John Waldron
23 Crescent Road, KINGSTON HILL, Surrey, KT2 7RD,
United Kingdom

(72) Inventor(s)

Christopher John Waldron

(74) Agent and/or Address for Service

R J Gordon & Company
17 Richmond Hill, RICHMOND UPON THAMES,
Surrey, TW10 6RE, United Kingdom

(51) INT CL⁶

B44D 3/00

(52) UK CL (Edition P)

A4F F37

(56) Documents Cited

GB 2220840 A

WO 93/24337 A

US 5505220 A

US 5413133 A

US 5402808 A

US 5363869 A

(58) Field of Search

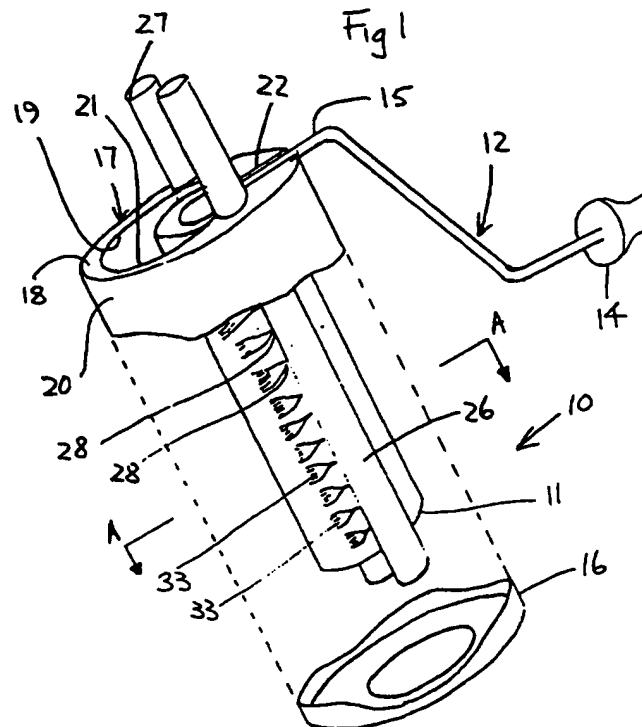
UK CL (Edition O) A4F

INT CL⁶ A46B , B08B , B44D

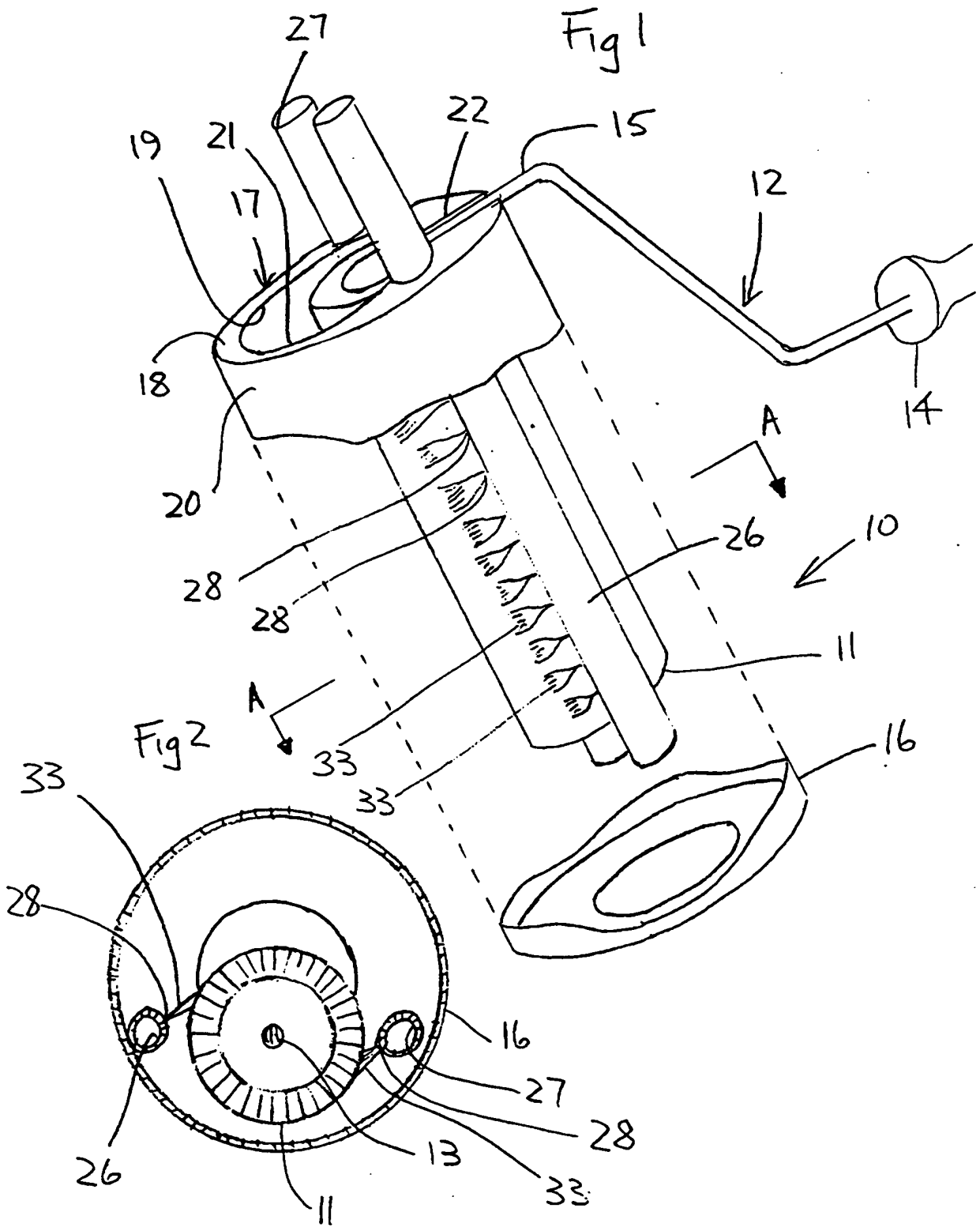
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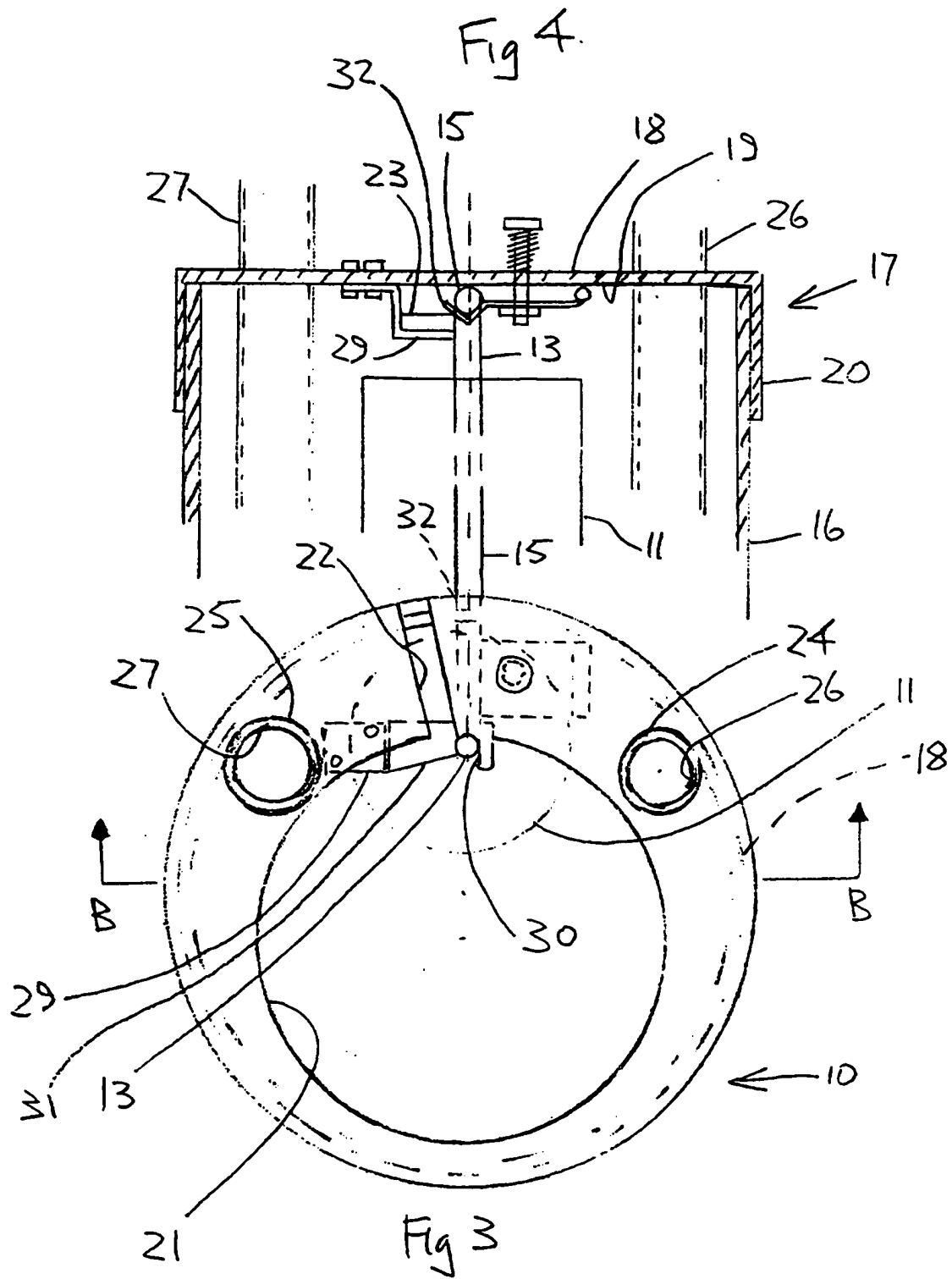
(54) Paint roller cleaning apparatus

(57) Paint roller cleaning apparatus 10 comprises conduit means 26, 27 for receiving cleaning liquid and having a plurality of apertures 28 through which the liquid issues in the form of liquid jets 33. The apparatus also includes means 30, 32, preferably a snap engagement means, for locating the handle 12 so that the roller 11 is located relative to the conduit means whereby the liquid jets 33 impact upon the roller 11 causing the roller 11 to rotate. The conduit means 26, 27 may be arranged so each conduit is located in a corresponding one of a pair of adjacent quadrants in the apparatus 10 when viewed in plan.



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Paint roller cleaning apparatus

This invention relates to paint roller cleaning apparatus.

Paint rollers are cleaned after use by manually agitating fibres of the rollers in a cleaning fluid. Generally, the paint is a water based emulsion and the cleaning fluid is water. The process can be time consuming and uncongenial.

It is desirable, therefore, to provide paint roller cleaning apparatus which is effective in cleaning paint rollers without human intervention in the cleaning process.

According to the present invention, there is provided paint roller cleaning apparatus comprising conduit means for receiving cleaning liquid and having a plurality of apertures and locating means for locating a paint roller relative to the conduit means so that when the cleaning liquid enters the conduit means, the liquid issues from the apertures as liquid jets which impact on the roller causing the roller to rotate on an axis of rotation thereof.

Following is a description, by way of example only and with reference to the accompanying drawings, of one method of carrying the invention into effect.

In the drawings:-

Figure 1 is a diagrammatic representation of an embodiment of paint roller cleaning apparatus in accordance with the present invention,

Figure 2 is a cross-section on the line A-A of Figure 1,

Figure 3 is a plan view of the apparatus shown in Figures 1 and 2, and

Figure 4 is a cross-section on the line B-B of Figure 3.

Referring now to the drawings, there is shown paint roller cleaning apparatus 10 for cleaning a paint roller 11. The roller 11 is carried on a handle 12 in the form of a rod an end portion of which provides an axle 13 on which the roller 11 rotates, an opposite end portion of which carries a hand grip 14 and an intermediate portion 15 of which is cranked so that the axle 13 extends at right angles to the hand grip 14.

The apparatus 10 comprises a cylinder 16 an upper end portion of which carries a cylindrical end cap 17. The cap 17 comprises an upper surface 18, a lower surface 19, a depending circumferential wall 20, and, between the planes containing the upper and lower surfaces 18,19, an eccentric

circular aperture 21. The upper surface 18 is provided with a rectilinear channel 22 extending at an angle to a diameter of the aperture 21. The circumferential wall 20 is provided with a slot 23 extending in a circumferential direction, which slot 23 communicates with the channel 22.

The cap 17 also is provided with a pair of apertures 24,25 located on opposite sides of the channel 22, the apertures 24,25 having located therein a corresponding one of a pair of tubes 26,27, longitudinal axes of which extend longitudinally of the cylinder 16. Each of the tubes 26,27 is provided with a series of apertures 28 spaced one from another longitudinally of the tubes 26,27. The tubes 26,27 are closed at lower end portions thereof and upper end portions of the tubes 26,27 are provided with means (not shown) adapted to be connected to a water supply.

The lower surface 19 has secured thereto a bracket 29 provided with a recess 30 and an abutment surface 31 inclined towards the recess 30, the bracket 29 being located on the surface 19 so that the recess 30 is positioned at an intersection of the channel 22 and the eccentric circular aperture 21. The lower surface 19 also is provided with a snap engageable catch 32 which is located adjacent the slot 23.

When it is required to clean the paint roller 11 having water based paint thereon, the roller, while still rotatably

mounted on the axle 13, is inserted into the cylinder 16 through the eccentric circular aperture 21 so that a longitudinal axis of the axle 13 extends longitudinally of the cylinder 16 and the intermediate portion 15 of the handle 12 adjacent the axle 13 lies across the upper surface 19 of the cap 17. The portion 15 of the handle 12 then is located in the channel 22 and the handle 12 moved in a direction radially of the cylinder 16 so that an upper end portion of the axle 13 engages the abutment surface 31 of the bracket 29 and is guided thereby into the recess 30. The handle 12 thus is restrained from movement in a plane parallel to the lower surface 19 of the cap 17. The handle 12 then is turned on the axis of the axle 13 so that the intermediate portion 15 is received in the slot 23 and is engaged by the snap engageable catch 32. The handle 12 thus is restrained from further rotation on the axis of the axle 13.

In consequence, the paint roller 11 thus is firmly located relative to the cylinder 16 and the tubes 26,27 but is still freely rotatable on the axle 13.

Cleaning of the paint roller 11 is effected by supplying water to the tubes 26,27 and the water issues therefrom through the apertures 28 in the form of water jets 33. The arrangement of the apertures 28 is such that the water jets 33 impact on the roller 11 causing the roller to rotate on the axle 13 thereby washing off paint from the fibres of the

roller 11. Loosening of paint from the roller 11 is assisted by centrifugal force generated by rotation of the roller. The water carrying the paint from the roller 11 drains through a lower portion of the cylinder 16.

It will be appreciated that the non-concentric location of the tubes 26,27 relative to a central longitudinal axis of the cylinder 16 provides for the aperture 21 being relatively large so that the roller 11 may easily be inserted in or withdrawn from the cylinder 16.

Claims

1. Paint roller cleaning apparatus comprising conduit means for receiving cleaning liquid and having a plurality of apertures and locating means for locating the roller relative to the conduit means so that the when the cleaning liquid enters the conduit means, the liquid issues from the apertures as liquid jets which impact on the roller causing the roller to rotate on an axis of rotation thereof.
2. Apparatus as claimed in Claim 1 wherein the locating means comprise means adapted to restrain movement of the roller in a longitudinal direction of the said axis and in a plane containing the said axis.
3. Apparatus as claimed in Claim 2 wherein the locating means comprise snap engagement means for engaging a handle of the roller.
4. Apparatus as claimed in Claim 3 wherein the conduit means are combined in a single unit adapted to receive the roller.
5. Apparatus as claimed in Claim 4 including a cylinder wherein the unit comprises a cap for the cylinder.



Application No: GB 9621893.8
Claims searched: 1-7

Examiner: David Glover
Date of search: 26 November 1996

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.O): A4F

Int Cl (Ed.6): A46B, B08B, B44D

Other: Online: WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	GB 2220840 A (GEMINI DEVELOPMENTS LIMITED) see page 1 lines 1-18	1-3
X	WO 93/24337 (WARD) see whole document particularly figure 1, note the water applicator pipe 4 and apertures 5 and page 3 lines 23-25	1-3
X	US 5505220 (GORECKI) see particularly column 2 lines 6-63	1, 2, 4, 5
X	US 5413133 (RUSSELL) see whole document, note housing 10 and cover 11	1, 2, 4, 5
X	US 5402808 (WALLIS) see figures 1 & 8, note particularly frame guide 38	1-3, 5
X	US 5363869 (McDOWELL) see figure 1, note the insert 23	1-3

X Document indicating lack of novelty or inventive step
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